

**REMARKS**

New claims 61-72 are added. Claims 1-3 and 45-72 are pending in the application.

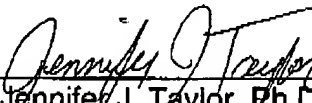
New claims 61-72 do not add "new matter" since each is supported by the specification as originally filed. For instance, each of new claims 61-72 are supported by claims 1-3 as originally filed.

New independent claims 61 and 66, like claims 1 and 55 discussed in the Response to March 6, 2001 Office Action, recite a sputtering target formed from a cast material and comprising a substantial absence of pores, voids, and inclusions; and further comprising a grain size of less than about 1 micrometer (with respect to claim 66, specifically recited as an average grain size of less than one micrometer). New claims 61 and 66 are therefore allowable for reasons similar to those discussed with respect to claims 1 and 55 (see Response to March 6 2001 Office Action, pages 5-7). Accordingly, applicant requests allowance of claims 1-3 and 45-72 in the Examiner's next action.

Respectfully submitted,

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By: \_\_\_\_\_

  
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Appl. No. 09/465,492

Application Serial No. .... 09/465,492  
Filing Date ..... December 16, 1999  
Inventor ..... V. Segal  
Assignee ..... Honeywell International, Inc.  
Group Art Unit ..... 1742  
Examiner ..... H. Wilkins III  
Attorney's Docket No. .... 30-5004(4015)  
Title: Sputtering Targets Formed From Cast Materials

VERSION WITH MARKINGS TO SHOW CHANGES MADE ACCOMPANYING  
RESPONSE TO MARCH 6, 2001 OFFICE ACTION

In the Claims

The claims have been amended as follows. Underlines indicate insertions and ~~strikeouts~~ indicate deletions.

61. (New) A sputtering target comprising copper, formed by a process including casting, and having a target surface with the following characteristics:

- a) substantially homogenous composition at any location;
- b) substantial absence of pores, voids, inclusions and other casting defects;
- c) substantial absence of precipitates;
- d) grain size less than about 1 $\mu$ m; and
- e) substantially uniform structure and texture at any location.

62. (New) The sputtering target of claim 1 further comprising one or more of Al, Au, and Ag.

63. (New) The sputtering target of claim 62 comprising Al.

Appl. No. 09/465,492

64. (New) The sputtering target of claim 62 comprising Au.
65. (New) The sputtering target of claim 62 comprising Ag.
66. (New) A sputtering target formed from a cast copper material and comprising:  
a substantial absence of pores, voids and inclusions; and  
an average grain size of less than about 1  $\mu$ m.
67. (New) The sputtering target of claim 66 wherein the copper material comprises pure copper.
68. (New) The sputtering target of claim 66 comprising one or more of Al, Au, and Ag.
69. (New) The sputtering target of claim 66 wherein the copper material comprises a copper alloy having one or more of the elements selected from the group consisting of Al, Au, and Ag.
70. (New) The sputtering target of claim 66 further comprising a substantial absence of precipitates.
71. (New) The sputtering target of claim 66 further comprising a substantially

Appl. No. 09/485,492

uniform structure and texture at any location.

72. (New) The sputtering target of claim 66 further comprising a substantially homogeneous composition at any location.